APPENDIX A

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(54) SYSTEM AND METHOD FOR MINING A USER'S ELECTRONIC MAIL MESSAGES TO DETERMINE THE USER'S AFFINITIES

(76) Inventors: **Andrew Lewis Schirmer**, Andover, MA (US); **David LeRoy Newbold**, West Roxbury, MA (US); **James Patrick Goodwin**, Beverly, MA (US); **Carl Joseph Kraenzel**, Boston, MA (US)

Correspondence Address:
MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC
12010 SUNSET HILLS ROAD
SUITE 900
RESTON, VA 20190 (US)

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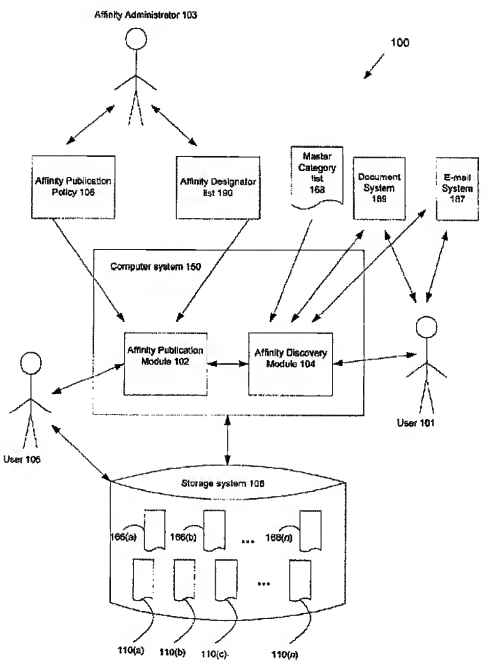
(57) **ABSTRACT**

A system and method for mining a user's e-mail and for generating a list of categories based on the e-mail content. The generated category list is compared to a master category list and those categories included in the generated category list that are not included in the master category list are removed from the generated category list. For each category remaining in the generated category list, the system and method calculates an affinity value, which represents the strength of the user's relationship to the category. The affinity (i.e., the concept plus the affinity value) may be submitted to an affinity publisher module that uses an affinity publication policy in determining whether or not to publish the affinity.



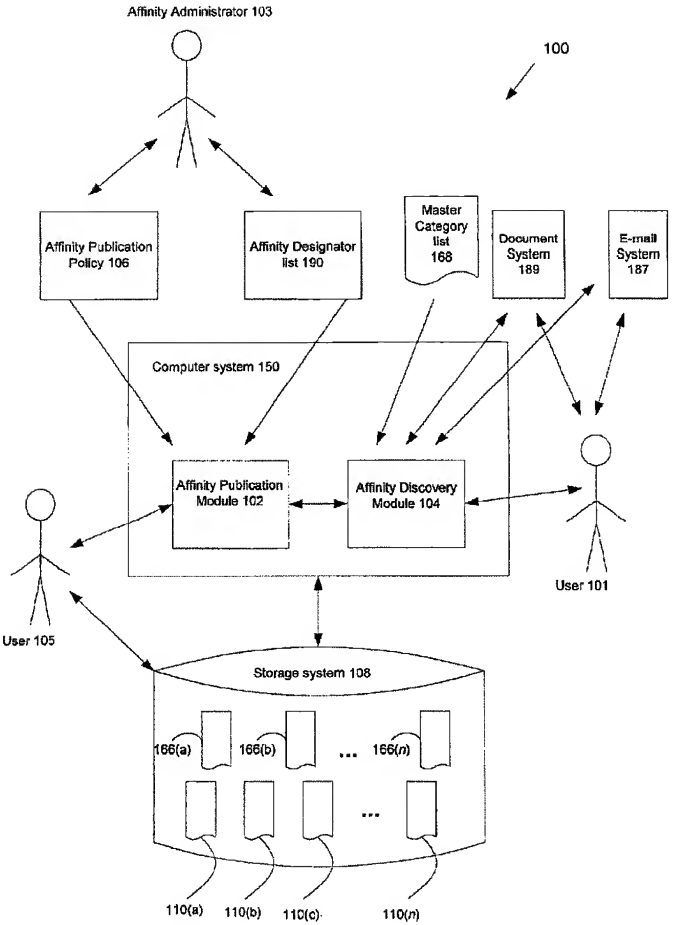

Affinity Administrator 103
100
Affinity Publication Policy 106
Affinity Designator list 190
Master Category list 168
Document System 189
E-mail System 187
Computer system 150
Affinity Publication Module 102
Affinity Discovery Module 104
User 101
User 105
Storage system 108
166(a)
166(b)
166(n)
110(a)
110(b)
110(c)
110(n)

FIG. 1

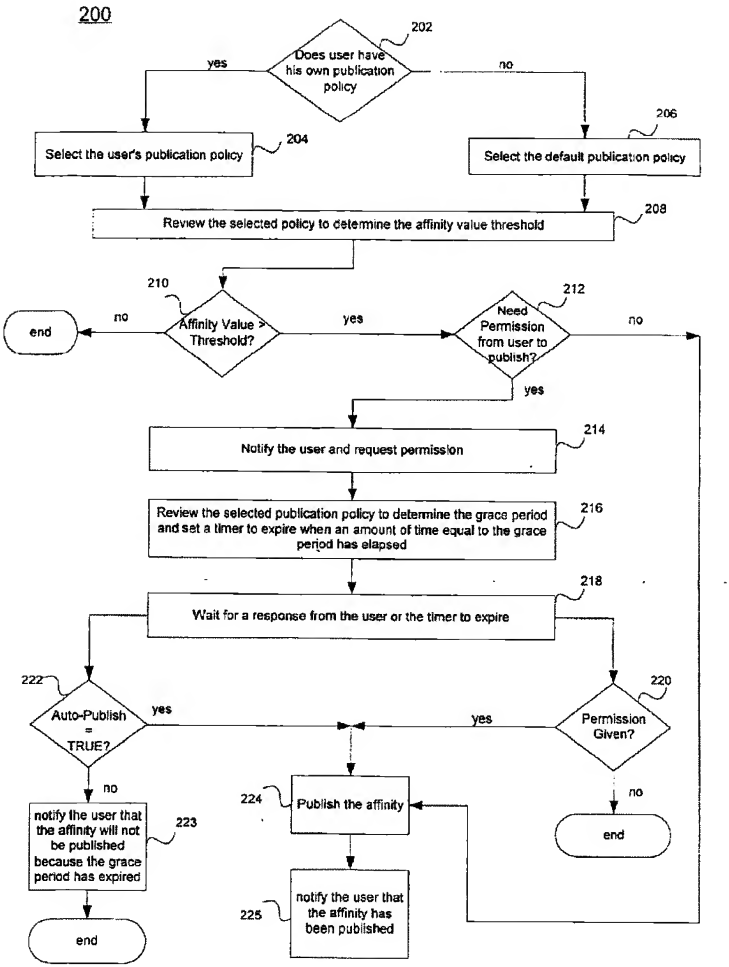

200
202
Does user have his own publication policy
yes
no
Select the user's publication policy
204
Select the default publication policy
206
Review the selected policy to determine the affinity value threshold
208
210
Affinity Value > Threshold?
no
end
yes
212
Need Permission from user to publish?
no
yes
Notify the user and request permission
214
Review the selected publication policy to determine the grace period and set a timer to expire when an amount of time equal to the grace period has elapsed
216
Wait for a response from the user or the timer to expire
218
222
Auto-Publish = TRUE?
yes
no
notify the user that the affinity will not be published because the grace period has expired
223
end
yes
220
Permission Given?
no
end
224
Publish the affinity
notify the user that the affinity has been published
225

FIG. 2

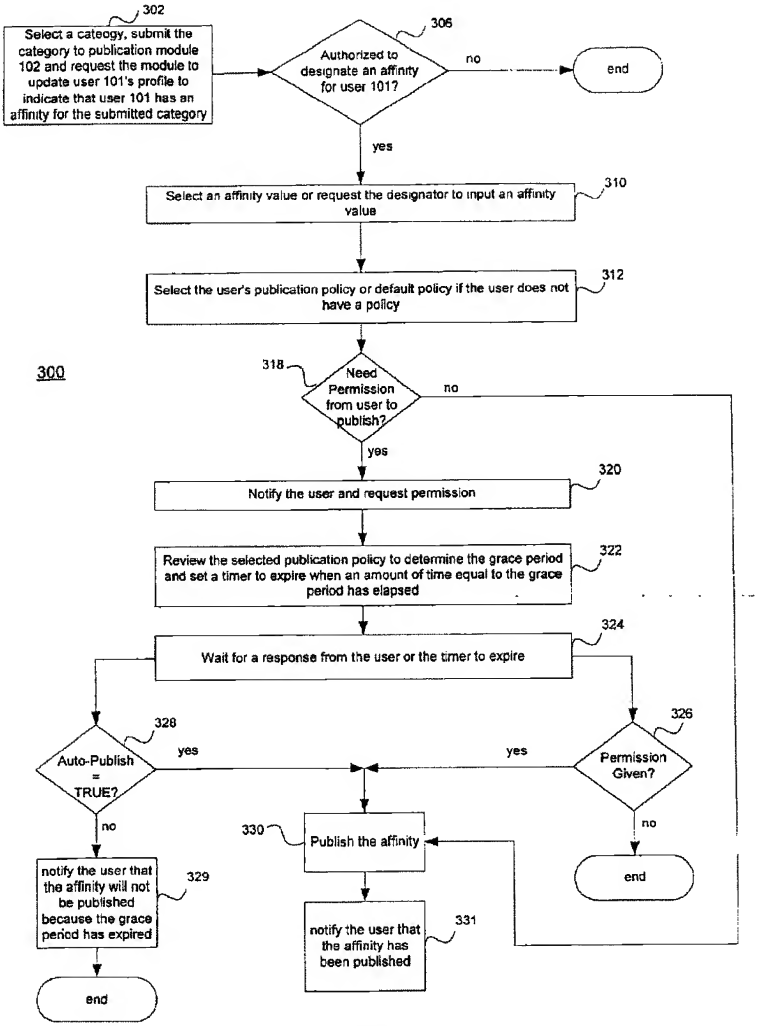

300
302
Select a cateogy, submit the category to publication module 102 and request the module to update user 101's profile to indicate that user 101 has an affinity for the submitted category
306
Authorized to designate an affinity for user 101?
no
end
yes
310
Select an affinity value or request the designator to input an affinity value
312
Select the user's publication policy or default policy if the user does not have a policy
318
Need Permission from user to publish?
no
yes
320
Notify the user and request permission
322
Review the selected publication policy to determine the grace period and set a timer to expire when an amount of time equal to the grace period has elapsed
324
Wait for a response from the user or the timer to expire
328
Auto-Publish = TRUE?
yes
no
326
Permission Given?
yes
no
330
Publish the affinity
329
notify the user that the affinity will not be published because the grace period has expired
end
331
notify the user that the affinity has been published
end

FIG. 3

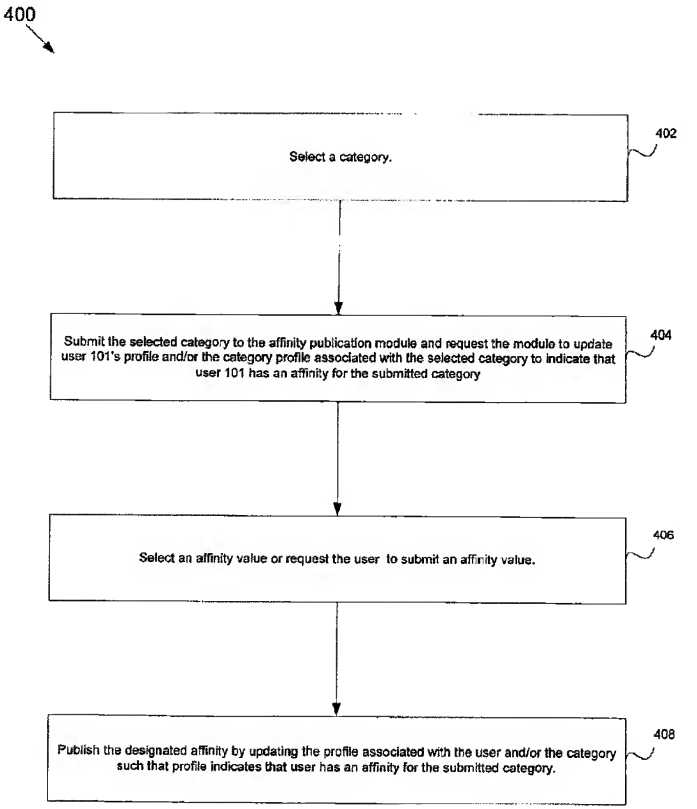

400
Select a category.
402
Submit the selected category to the affinity publication module and request the module to update user 101's profile and/or the category profile associated with the selected category to indicate that user 101 has an affinity for the submitted category
404
Select an affinity value or request the user to submit an affinity value.
406
Publish the designated affinity by updating the profile associated with the user and/or the category such that profile indicates that user has an affinity for the submitted category.
408

FIG. 4

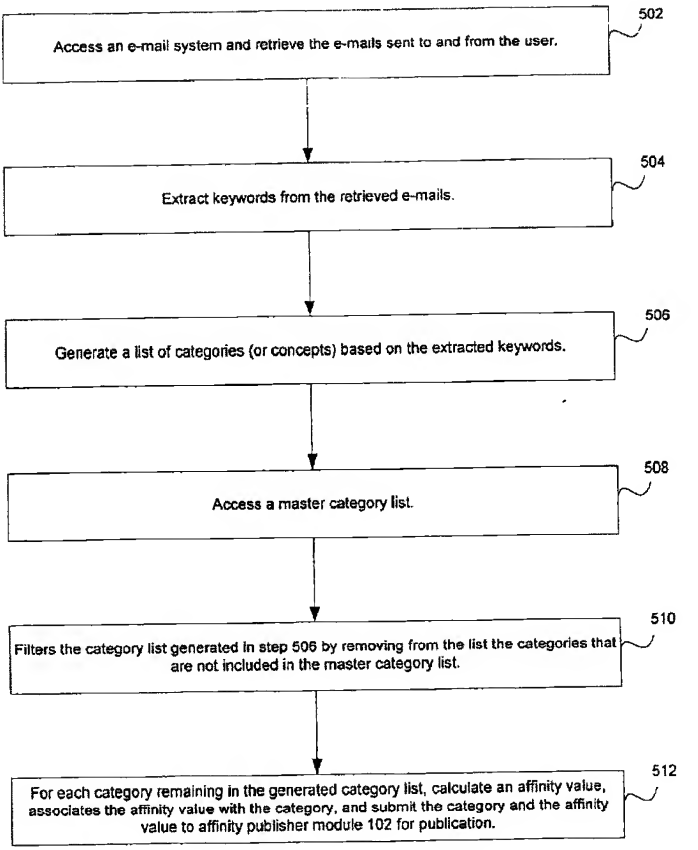

Access an e-mail system and retrieve the e-mails sent to and from the user.
502
Extract keywords from the retrieved e-mails.
504
Generate a list of categories (or concepts) based on the extracted keywords.
506
Access a master category list.
508
Filters the category list generated in step 506 by removing from the list the categories that are not included in the master category list.
510
For each category remaining in the generated category list, calculate an affinity value, associates the affinity value with the category, and submit the category and the affinity value to affinity publisher module 102 for publication.
512

FIG. 5

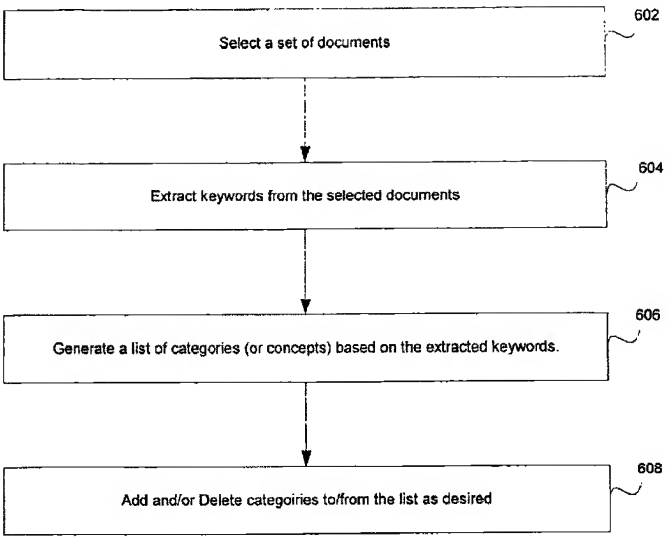

Select a set of documents
602
Extract keywords from the selected documents
604
Generate a list of categories (or concepts) based on the extracted keywords.
606
Add and/or Delete categoiries to/from the list as desired
608

FIG. 6

SYSTEM AND METHOD FOR MINING A USER'S ELECTRONIC MAIL MESSAGES TO DETERMINE THE USER'S AFFINITIES

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application No. _____ (attorney docket no. 23452-500-301) entitled KNOWLEDGE SERVER, filed on Jan. 14, 2002, the contents of which are incorporated by reference into this patent application.

[0002] This application is related to the following commonly owned U.S. patent applications, all of which are hereby incorporated by reference into the present application: (1) U.S. patent application Ser. No. 09/401,581, entitled METHOD AND SYSTEM FOR PROFILING USERS BASED ON THEIR RELATIONSHIP WITH CONTENT TOPICS, filed Sep. 22, 1999; (2) U.S. patent application Ser. No. _____ (attorney docket no. 23452-509) entitled METHOD AND SYSTEM FOR PROFILING USERS BASED ON THEIR RELATIONSHIP WITH CONTENT TOPICS, filed Jan. 15, 2002; (3) U.S. patent application Ser. No. _____ (attorney docket no. 23452-507) entitled SYSTEM AND METHOD FOR PUBLISHING A PERSON'S AFFINITIES, filed Jan. 15, 2002; (4) U.S. patent application Ser. No. _____ (attorney docket no. 23452-501) entitled SYSTEM AND METHOD FOR CALCULATING A USER AFFINITY, filed Jan. 15, 2002; and (5) U.S. patent application Ser. No. _____ (attorney docket no. 23452-505) entitled SYSTEM AND METHOD FOR IMPLEMENTING A METRICS ENGINE FOR TRACKING RELATIONSHIPS OVER TIME, filed Jan. 15, 2002.

BACKGROUND OF THE INVENTION

[0003] 1. Field of the Invention

[0004] The present invention relates to the field of knowledge management, and, more specifically, to a system and method for mining a user's electronic mail messages to determine the user's affinities.

[0005] 2. Discussion of the Background

[0006] When a person is attempting to accomplish a task, it is often useful for the person to obtain information from other people who have knowledge of the topics with which the task is concerned. To do so, the person must have a way to discover the people who have the information the person is seeking to obtain. One way of facilitating this discovery is to publish people's "affinities," which are simply links between people and categories or topics of information. Each affinity may include a value representing the strength of the relationship with the category—the higher the value, the greater the person's affinity for the topic.

[0007] It is possible that publishing a person's affinity (i.e., making the affinity known to others) would be inappropriate, either because the affinity is inaccurate or misleading, or because it reveals an accurate relationship with a topic that the person does not wish to make public. Therefore, it is important to provide ways for people to judge their proposed affinities accurately and to avoid affinity publication in such cases. Recognizing that policies concerning affinity publication may be affected by different cultures and laws, the solution to these problems must be flexible as well.

SUMMARY OF THE INVENTION

[0008] The present invention provides a system and method for mining a user's e-mail (i.e., examining the content of the user's e-mail) and for generating a list of concepts (also referred to as categories) based on the e-mail content. The generated category list is compared to a master category list and those categories included in the generated category list that are not included in the master category list are removed from the generated category list. For each category remaining in the generated category list, the system and method calculates an affinity value, which represents the strength of the user's relationship to the category. The affinity (i.e., the category plus the affinity value) may be submitted to an affinity publisher module that uses an affinity publication policy in determining whether or not to publish the affinity.

[0009] In one aspect, a method according to the present invention for mining e-mails to determine a user's affinities includes the following steps: accessing an e-mail system and retrieving from the system the e-mails sent to and from the user; extracting keywords from the retrieved e-mails; generating a list of categories based on the extracted keywords; accessing a master category list; filtering the generated category list by removing from the generated list those categories that are not included in the master category list; and for each category remaining in the generated category list, calculating an affinity value, associating the affinity value with the category, and submitting the category and the affinity value to the affinity publisher module.

[0010] The above and other features and advantages of the present invention, as well as the structure and operation of various embodiments of the present invention, are described in detail below with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The accompanying drawings, which are incorporated herein and form part of the specification, illustrate various embodiments of the present invention and, together with the description, further serve to explain the principles of the invention and to enable a person skilled in the pertinent art to make and use the invention. In the drawings, like reference numbers indicate identical or functionally similar elements. Additionally, the left-most digit(s) of a reference number identifies the drawing in which the reference number first appears.

[0012] **FIG. 1** is a functional block diagram of a system according to one embodiment of the present invention.

[0013] **FIG. 2** is a flow chart illustrating a process, according to one embodiment, performed by affinity publisher module.

[0014] **FIG. 3** is a flow chart illustrating a process, according to one embodiment, for publishing a designated affinity.

[0015] **FIG. 4** is a flow chart illustrating a process, according to one embodiment, for enabling a user to declare and publish an affinity.

[0016] **FIG. 5** is a flow chart illustrating a process, according to one embodiment, for mining electronic mail (e-mail).

[0017] **FIG. 6** is a flow chart illustrating a process, according to one embodiment, for creating a master category list.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0018] While the present invention may be embodied in many different forms, there is described herein in detail an illustrative embodiment with the understanding that the present disclosure is to be considered as an example of the principles of the invention and is not intended to limit the invention to the illustrated embodiment.

[0019] **FIG. 1** is a functional block diagram of a system **100** according to one embodiment of the present invention. System **100** includes a computer system **150** for executing an affinity publisher software module **102** and an affinity discovery software module **104**, an affinity publication policy **106**, and a storage system **108** that stores a plurality of user profiles **110** and a plurality of category profiles **166**, wherein each user profile **110** is a set of information that is associated with a particular user (e.g., profile **110**(*b*) is associated with a user **101**), and wherein each category profile **166** is a set of information associated with a particular category. Storage system **108** includes one or more storage devices so that user profiles **110** and category profiles **166** need not be stored on the same storage device. A profile can be a single computer file, one or more computer files, one or more records in a database, etc. Computer system **150** includes one or more computers (not shown). Affinity discovery module **104** functions to monitor the activities of user **101** to determine the subject matters (i.e., categories) for which user **101** appears to have an affinity, determines the strength of the affinity for each determined category, and assigns an affinity value to the determined affinity. As an example, affinity discovery module **104** may be operable to access an electronic mail (e-mail) system **187** to examine the e-mails sent to and from user **101** and may be operable to access a document repository **189** to examine the documents authored or viewed by user **101**. For example, if user **101** has recently authored and viewed several documents associated with the category of "computer security," then affinity discovery module **104** will know this because it monitors user **101**'s document activity. Consequently, affinity discovery module **104** will determine that user **101** appears to have an affinity for "computer security" based on user **101**'s document activity. Additionally, affinity discovery module **104** will assign an affinity value to the affinity. The affinity value represents the strength of user **101**'s affinity for the category.

[0020] After affinity discovery module **104** determines that user **101** appears to have an affinity for a particular category and assigns an affinity value to the affinity, module **104** submits the "affinity" to affinity publisher module **102**. That is, module **104** submits the name of the category and the calculated affinity value to module **102**.

[0021] Upon receiving a submitted affinity, affinity publisher module **102** applies an affinity publication policy **106** to determine whether it should publish user **101**'s apparent affinity for the particular category. Affinity publication policy **106** includes rules and other information that govern the publication of affinities. In one embodiment, publication policy **106** can only be created and modified by an affinity administrator **103**. In other embodiments, affinity administrator **103** as well as other users can create and/or modify the affinity publication policy.

[0022] Affinity publication policy **106** preferably includes some or all of the following information: an affinity threshold value, an indication as to whether publisher module **102** must get permission from a user prior to publishing the user's affinities, an auto-response grace period, a setting for an auto-publish flag, and other information. Other information and other rules can be included in publication policy **106**. The ability of administrator **103** to create an affinity publication policy creates a unique advantage because this features allows system **100** to be flexible and, thus, easily adapt to different cultures and laws regarding publication of private information.

[0023] If, based on affinity publication policy **106**, module **102** determines that it should publish user **101**'s apparent affinity for the particular category, then, in one embodiment, module **102** updates one or both of the user profile **110** associated with user **101** (e.g., user profile **110**(*b*)) and the category profile **166** associated with the particular category, so that the update profile indicates that user **101** has an affinity for the particular category. The user profile **110** and/or category profile **166** is/are also updated to indicate the affinity value assigned to the affinity.

[0024] Profiles **110** and **166** may be searched by third parties or search engines. In this way, after affinity publisher module **102** publishes user **101**'s affinity for the particular subject matter, a third person or a search engine or other system is able to determine that user **101** has an affinity for the particular category simply by examining profiles **110** and/or **166**. In this way, a person who seeks to discover individuals who are likely to have knowledge and/or expertise about a certain topic can easily do so simply by searching profiles **110**/**166**.

[0025] In one embodiment, system **100** includes a single affinity publication policy **106** (also referred to as "default affinity publication policy **106**") that applies to all users whose activities are being monitored. In another embodiment, a user whose activities are being monitored may have his or her own affinity publication policy which overrides the default affinity publication policy. That is, when a user has his or her own affinity publication policy, affinity publisher module **102** uses that affinity publication policy instead of the default affinity publication policy in determining whether or not to publish an affinity for the user.

[0026] **FIG. 2** is a flow chart illustrating a process **200** performed by affinity publisher module **102** after discovery module **104** determines that user **101** appears to have an affinity for a particular category, assigns an affinity value for the apparent affinity, and submits the affinity to module **102**. Process **200** begins in step **202**, where module **102** determines whether user **101** has his or her own affinity publication policy. If user **101** has his or her own affinity publication policy, module **102** selects that affinity publication policy (step **204**), otherwise, module **102** selects default affinity publication policy **106** (step **206**). Next (step **208**), module **102** determines the selected policy's affinity threshold. Next (step **210**), module **102** determines whether the affinity value assigned by discovery module **104** exceeds the determined affinity threshold. If the assigned affinity value does not exceed the affinity threshold, the process ends, otherwise the process continues in step **212**.

[0027] In step **212**, module **102** determines whether the publication policy indicates that module **102** must get permission from user **101** prior to publishing user **101**'s affinities. If the publication policy indicates that module **102** must

get permission from user **101** prior to publishing user **101**'s affinities, then control passes to step **214**, otherwise control passes to step **224**.

[0028] In step **214**, module **102** notifies user **101** of user **101**'s apparent affinity for the particular category and requests permission from user **101** to publish the affinity. In one embodiment, as described above, a category profile, such as profile **166**(*b*) is associated with the particular category. Category profile **166**(*b*) may include: the names of all of the people that have a published affinity for the particular category, the names of the documents (if any) that are linked with or associated with the particular category, and information concerning the relationship between the particular category and other categories. In this embodiment, module **102** may send to user **101** the information included in category profile **166**(*b*) along with the affinity notification because user **101** may find the information included in category profile **166**(*b*) useful when determining the accuracy of the affinity and whether or not to approve publication of the affinity. In one embodiment, the affinity notification sent to user **101** includes not only the name of a category and an affinity value associated with the category, but also one or more keywords that are associated with the category. This additional information gives user **101** a better context for determining whether or not he or she wants to have the affinity published.

[0029] Next (step **216**), module **102** determines the auto-response grace period for the selected affinity publication policy and sets a timer to expire when an amount of time equal to the grace period has elapsed. Next (step **218**), module **102** waits for a response from user **101** or for the timer to expire. If a response is received before the timer expires, control passes to step **220**, otherwise control passes to step **222**.

[0030] In step **220**, module **102** determines whether the response indicates that user **101** has approved the publication of the affinity. If the response indicates that user **101** has approved the publication of the affinity, control passes to step **224**, otherwise the process ends.

[0031] In step **222**, module **102** determines whether the selected affinity publication policy's auto-publish flag is set to TRUE. If it is, control passes to step **224**, otherwise control passes to step **223**, where module **102** notifies user **101** that the affinity will not be published because the grace period has expired. The process ends after step **223**. In step **224**, module **102** publishes the affinity. In one embodiment, module **102** publishes the affinity by updating profile **110**(*b*), which is associated with user **101**, such that profile **110**(*b*) indicates that user **101** has an affinity for the particular category. Advantageously, profile **110**(*b*) may also be updated to indicate the strength of the affinity. That is, for example, the affinity value assigned to the affinity can be included in profile **110**(*b*) along with the information that indicates user **101** has an affinity for the category. After the affinity is published, module **102** may notify user **101** that the affinity was published (step **225**). Preferably, in addition to (or instead of) updating profile **110**(*b*), module **102** updates the category profile **166** that is associated with the particular category so that the category profile indicates that user **101** has an affinity for the particular category.

[0032] **FIG. 3** is a flow chart illustrating a process **300** for publishing a designated affinity for user **101**. A designated affinity for user **101** is an affinity assigned to user **101** by a third-party, such as user **101**'s manager, who may wish to assign an affinity to user **101**.

[0033] Process **300** begins in step **302**, where user **105** selects a category, submits the category to module **102**, and requests module **102** to update user **101**'s profile (i.e., profile **110**(*b*)) to indicate that user **101** has an affinity for the submitted category. In step **306**, module **102** determines whether user **105** is authorized to designate an affinity for user **101**. If user **105** is not so authorized, process **300** ends, otherwise control passes to step **310**. In one embodiment, module **102** determines whether user **105** is authorized to designate affinities for user **101** by examining an affinity designator list **190**. Preferably, administrator **103** controls the list and authorizes a user (such as user **105**) to designate affinities for another user (such as user **101**) by adding an entry to list **190** that indicates that the user has permission to designate affinities for the other user.

[0034] In step **310**, module **102** either selects an affinity value or requests user **105** to input an affinity value. In step **312**, module **102** determines whether user **101** has his or her own affinity publication policy, and, if user **101** has his or her own affinity publication policy, selects that affinity publication policy, otherwise, selects default affinity publication policy **106**.

[0035] In step **318**, module **102** determines whether the publication policy indicates that module **102** must get permission from user **101** prior to publishing the designated affinity. If the publication policy indicates that module **102** must get permission from user **101** prior to publishing the designated affinity, then control passes to step **320**, otherwise control passes to step **330**.

[0036] In step **320**, module **102** notifies user **101** of the proposed designated affinity and requests permission from user **101** to publish the affinity. In step **322**, module **102** determines the selected affinity publication policy's auto-response grace period and sets a timer to expire when an amount of time equal to the grace period has elapsed. In step **324**, module **102** waits for a response from user **101** or for the timer to expire. If a response is received before the timer expires, control passes to step **326**, otherwise control passes to step **328**.

[0037] In step **326**, module **102** determines whether the response indicates that user **101** has approved the publication of the designated affinity. If the response indicates that user **101** has approved the publication of the designated affinity, control passes to step **330**, otherwise the process ends.

[0038] In step **328**, module **102** determines whether the selected affinity publication policy's auto-publish flag is set to TRUE. If it is, control passes to step **330**, otherwise control passes to step **329**, where module **102** notifies user **101** that the affinity will not be published because the grace period has expired. The process ends after step **329**.

[0039] In step **330**, module **102** publishes the designated affinity. In one embodiment, module **102** publishes the designated affinity by updating profile **110**(*b*), which associated with user **101**, such that profile **110**(*b*) indicates that user **101** has an affinity for the submitted category. Advantageously, profile **110**(*b*) may also be updated to indicate the strength of the affinity. That is, for example, the affinity

value obtained in step **310** can be included in profile **110**(*b*) along with the information that indicates user **101** has an affinity for the category. After the affinity is published, user **101** may be notified that the affinity was published (step **331**). Preferably, in addition to (or instead of) updating profile **110**(*b*), module **102** updates the category profile **166** that is associated with the particular category so that the category profile indicates that user **101** has an affinity for the particular category.

[**0040**] In addition to publishing derived affinities (that is, affinities determined by affinity discovery module **104**) and designated affinities, module **102** can be configured to allow a user to declare his or her own affinities. **FIG. 4** is a flow chart illustrating a process for enabling user **101** to declare and publish an affinity. Process **400** begins in step **402**, where user **101** selects a category. In step **404**, user submits the selected category to module **102**. In step **406**, module **102** either selects an affinity value or requests user **101** to submit an affinity value. In step **408**, module **102** publishes the designated affinity.

[**0041**] **FIG. 5** is a flow chart illustrating a process **500**, which may be performed by affinity discovery module **104**, for mining electronic mail (e-mail) for the purpose of determining a user's affinities. Process **500** begins in step **502**, where module **104** accesses e-mail system **187** and retrieves the e-mails sent to and from the user. Next (step **504**), module **104** extracts keywords from the retrieved e-mails. Next (step **506**), module **104** generates a list of categories (or concepts) based on the extracted keywords. Next (step **508**), module **102** access a master category list **168**. Next (step **510**), module **104** filters the category list generated in step **506** by removing from the list the categories that are not included in the master category list. Next (step **512**), for each category remaining in the generated category list, module **104** calculates an affinity value, associates the affinity value with the category, and submits the category and the affinity value to affinity publisher module **102**, which then performs process **200**.

[**0042**] The feature of filtering the category list generated in step **506** based on the master category list provides a mechanism for protecting the user's privacy. It protects the user's privacy by ensuring that only the user's affinity for categories included in the master category list have a chance of being published. In other words, there is no chance that affinity publisher module **102** will publish the user's affinity for a category that is not on the master category list. In this way, system **100** provides privacy protection.

[**0043**] In one embodiment, when module **104** is mining the e-mails received by and/or sent from a particular user, module **104** uses keywords generated from the content of one or more of those e-mails to determine affinities for other users who also received or sent those e-mails. For example, if 15 of the e-mails received by user A were also received by or sent from user B, then when module **104** is mining user A's e-mails module **104** can use these 15 e-mails to discover affinities for user B. In this way, module **104** can determine affinities for user B based on e-mail content even if user B has not given module **104** permission to mine his or her e-mails.

[**0044**] **FIG. 6** is a flow chart illustrating a process **600**, according to one embodiment, for creating master category list **168**. Process **600** begins in step **602**, where a set of documents from one or more document repositories (such as repository **189**) are accessed. In one embodiment, the set of documents may be selected by administrator **103**, but in other embodiments the set of documents are selected according to other criteria, such as the author and/or type of document. Next (step **604**) keywords are extracted from the set of documents. Next, (step **606**), a list of categories (or concepts) based on the extracted keywords is generated. Lastly (step **608**), categories can be manually added to and/or deleted from the list as desired.

[**0045**] While the illustrated processes **200**, **300**, **400**, **500** and **600** are described as a series of consecutive steps, none of these processes are limited to any particular order of the described steps. Additionally, it should be understood that the various illustrative embodiments of the present invention described above have been presented by way of example only, and not limitation. Thus, the breadth and scope of the present invention should not be limited by any of the above-described exemplary embodiments, but should be defined only in accordance with the following claims and their equivalents.

What is claimed is:

1. A method for mining e-mails to determine a user's affinities, comprising:

accessing an e-mail system and retrieving from the system the e-mails sent to and from the user;

extracting keywords from the retrieved e-mails;

generating a list of categories based on the extracted keywords;

accessing a master category list;

filtering the generated category list by removing from the generated list those categories that are not included in the master category list; and

for each category remaining in the generated category list, calculating an affinity value and associating the affinity value with the category, wherein the affinity value represent the strength of the user's relationship to the category.

2. The method of claim 1, further comprising the step of submitting a proposed user affinity for publication, wherein the proposed user affinity includes one of the categories from the generated category list and the affinity value associated with the category.

3. The method of claim 2, further comprising the step of determining an affinity value threshold.

4. The method of claim 3, further comprising the step of determining whether the affinity value included in the proposed user affinity exceeds the affinity value threshold.

5. The method of claim 4, wherein if the affinity value included in the proposed user affinity does not exceed the affinity value threshold, then the proposed user affinity is not published.

6. The method of claim 4, further comprising the step of publishing the proposed user affinity if it is determined that the affinity value included in the proposed user affinity exceeds the affinity value threshold.

7. The method of claim 4, further comprising the steps of notifying the user of the proposed user affinity and requesting from the user a response that indicates whether or not the user wishes to have the proposed user affinity published if it

is determined that the affinity value included in the proposed user affinity exceeds the affinity value threshold.

8. The method of claim 7, further comprising the step of publishing the proposed user affinity if the user does not respond to the request for a response within a predetermined amount of time.

9. The method of claim 7, further comprising the steps of:

receiving the response from the user;

determining whether the response indicates that the user wishes to have the proposed user affinity published; and

publishing the proposed user affinity if it is determined that the response indicates that the user wishes to have the proposed user affinity published.

10. The method of claim 6, wherein the step of publishing the proposed user affinity comprises the step of updating a profile associated with the user such that the profile indicates that the user has an affinity for the category included in the proposed user affinity.

11. A system for mining e-mails to determine a user's affinities, comprising:

means for accessing an e-mail system and retrieving from the system the e-mails sent to and from the user;

means for extracting keywords from the retrieved e-mails;

means for generating a list of categories based on the extracted keywords;

means for accessing a master category list;

means for filtering the generated category list by removing from the generated list those categories that are not included in the master category list; and

means for calculating an affinity value for each category remaining in the generated category list, wherein the affinity value represent the strength of the user's relationship to the category.

12. The system of claim 11, further comprising an affinity publisher module for receiving a proposed user affinity, wherein the proposed user affinity includes one of the categories from the generated category list and the calculated affinity value associated with the category.

13. The system of claim 12, further comprising an affinity publication policy that defines an affinity value threshold.

14. The system of claim 13, wherein the affinity publisher module comprises means for determining whether the affinity value included in the proposed user affinity exceeds the affinity value threshold.

15. The system of claim 14, wherein if the affinity value included in the proposed user affinity does not exceed the affinity value threshold, then the affinity publish module will not publish the proposed user affinity.

16. The system of claim 14, wherein the affinity publisher module will publish the proposed user affinity if it is determined that the affinity value included in the proposed user affinity exceeds the affinity value threshold.

17. The system of claim 14, further comprising means for notifying the user of the proposed user affinity and means for requesting from the user a response that indicates whether or not the user wishes to have the proposed user affinity published.

18. The system of claim 17, further comprising means for determining whether the user has not responded to the request within a predetermined amount of time.

19. The system of claim 17, further comprising:

means for receiving the response from the user;

means for determining whether the response indicates that the user wishes to have the proposed user affinity published; and

publishing means for publishing the proposed user affinity, wherein, if it is determined that the response indicates that the user wishes to have the proposed user affinity published, the publishing means will publish the proposed user affinity.

20. The system of claim 16, wherein the affinity publisher module publishes the proposed user affinity by updating a profile associated with the user such that the profile indicates that the user has an affinity for the category included in the proposed user affinity.

21. A computer program product for mining e-mails to determine a user's affinities, the computer program product being embodied in a computer readable medium and comprising computer instructions for:

accessing an e-mail system and retrieving from the system the e-mails sent to and from the user;

extracting keywords from the retrieved e-mails;

generating a list of categories based on the extracted keywords;

accessing a master category list;

filtering the generated category list by removing from the generated list those categories that are not included in the master category list; and

for each category remaining in the generated category list, calculating an affinity value and associating the affinity value with the category, wherein the affinity value represent the strength of the user's relationship to the category.

22. The computer program product claim 21, further comprising computer instructions for submitting a proposed user affinity for publication, wherein the proposed user affinity includes one of the categories from the generated category list and the affinity value associated with the category.

23. The computer program product claim 22, further comprising computer instructions for determining an affinity value threshold.

24. The computer program product claim 23, further comprising computer instructions for determining whether the affinity value included in the proposed user affinity exceeds the affinity value threshold.

25. The computer program product claim 24, wherein if the affinity value included in the proposed user affinity does not exceed the affinity value threshold, then the proposed user affinity is not published.

26. The computer program product claim 24, further comprising computer instructions for publishing the proposed user affinity if it is determined that the affinity value included in the proposed user affinity exceeds the affinity value threshold.

27. The computer program product claim 24, further comprising computer instructions for notifying the user of the proposed user affinity and requesting from the user a response that indicates whether or not the user wishes to have the proposed user affinity published if it is determined that the affinity value included in the proposed user affinity exceeds the affinity value threshold.

28. The computer program product claim 27, further comprising computer instructions for publishing the proposed user affinity if the user does not respond to the request for a response within a predetermined amount of time.

29. The computer program product claim 27, further comprising computer instructions for:

receiving the response from the user;

determining whether the response indicates that the user wishes to have the proposed user affinity published; and

publishing the proposed user affinity if it is determined that the response indicates that the user wishes to have the proposed user affinity published.

30. The computer program product claim 26, wherein the computer instructions for publishing the proposed user affinity comprises computer instructions for updating a profile associated with the user such that the profile indicates that the user has an affinity for the category included in the proposed user affinity.

31. A computer signal embodied in a carrier wave readable by a computing system and encoding a computer program of instructions for executing a computer process performing the method recited in claim 1.

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